Water Leakage Detection Sensor Installation Guide

Introduction

Milesight provides various types of contact leakage detection LoRaWAN® sensors to suit user applications in smart buildings, asset management, etc. The main differences are as follows:
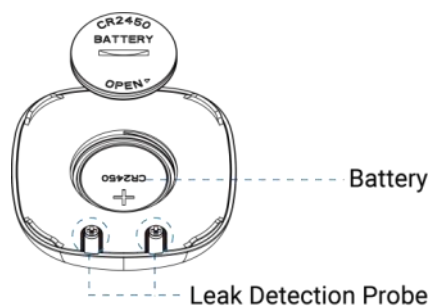
Model	WS303	EM300-SLD	EM300-ZLD	EM300-MLD
Sensor Type	2 detection pins	2 detection pins	Sensing cable	Printed membrane
Detection Area	1 Spot	1 Spot	3m*6mm cable area	400mm*400mm area

These sensors are mainly designed for liquid leakage detection including water, weak acid, and weak base. These are not suitable for detecting hazardous chemicals, solvents, oil, fuel, strong acids, or other corrosive liquids. If there is any requirement to detect corrosive liquid, please contact Milesight to customize the leakage sensor.

Installation Guide

WS303

There are two leak detection probes behind the device. When the water covers both probes (soaking water length > 1.8 cm), the device will send leakage alarms.
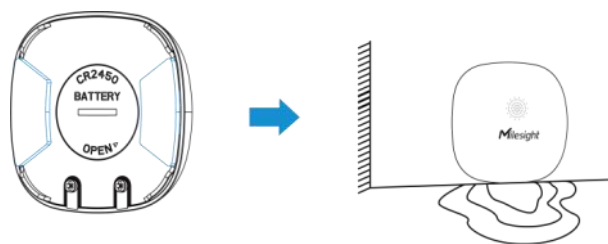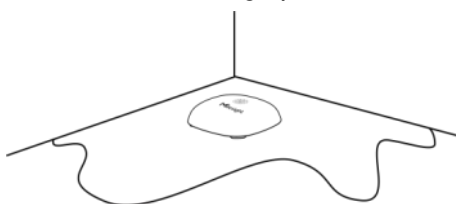

WS303 should be placed on sites as follows:
1. Open areas to avoid the metal objects or obstacles to affect LoRaWAN® wireless transmission;
2. The location where water will reach first or where it is easy to accumulate when leaking. Otherwise, it is recommended to install multiple devices to cover the potential leakage locations.

WS303 supports installation via two methods:

Fixed by 3M Tape: apply 3M tape to the back cover, then remove the protective backing and position it on the wall or floor near the detection area, ensuring that the two leak detection probes are facing the detection area.

Placement Installation: place the device facing up and horizontally in the detection area.

EM300-SLD

EM300-SLD leak detection probe has two metal pins to detect the water leakage. When the water touches both metal pins at the same time (soaking water length > 1.1 cm), the device will send leakage alarms.
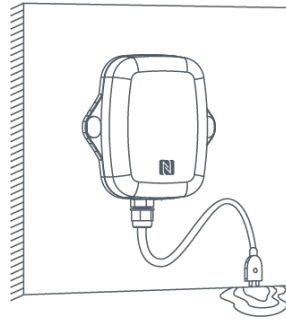

The small probe is suitable for below sites:
1. Narrow spaces or corner areas that only accommodate small detection probes;
2. Drain pans, floor drains, pits, etc;
3. Locations where water will reach first or accumulate easily when a leak occurs.

The probe supports being secured either with screws or 3M tape. When installing, ensure the installation surface is smooth and free of debris, and orient two metal pins toward the location where the water may accumulate.
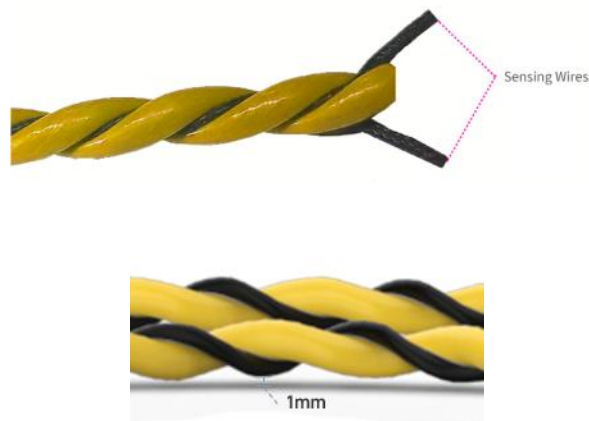
Note:
1) Do not touch the metal pins to metal objects to avoid error alarm report.
2) To ensure best LoRaWAN® communication, keep the EM300-SLD device away from metal objects and obstacles.

EM300-ZLD

EM300-ZLD sensing cable consists of two black sensing wires and polyethylene. When the water cover the cable, touching sensing cables (soaking water length ≥ 3 cm and depth ≥ 1mm), the device will send leakage alarms. It's important to note that this sensing cable does not pinpoint the exact location of the leakage.

Connect Sensing Cable to EM300-ZLD Device

Connect the connector on one end of the sensing cable to the EM300-ZLD device connector, then tighten the connectors. Please note that the sensing cable comes with only one connector and does not support the connection of additional sensing cables to extend the detection length. If you need to expand the length, please contact Milesight to customize the cable length or purchase a sensing cable with connectors on both ends to replace the default one.
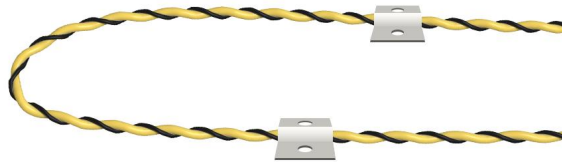
Install the Sensing Cable

1. Select the installation location to detect the leakage. The sensing cable can be wrapped around pipes, routed along to walls or placed on the floors. Ensure that the surfaces of the installation location are clean and free of debris, dirt, adhesive residues, water droplets, and other contaminants.

Note:

1) Installation location should be away from foot traffic, sharp objects and areas where heavy items rolling, dropping on the cable.

2) Keep the cable away from air-conditioning outlet or moist places to avoid error alarm report.

2. Install the sensing cable at the designated installation locations.

Install cable to floors/walls: attach the sensing cable to the installation location without a gap and fix it tightly with cable clips. Do not fix the cable with glue or metal which may affect the detection sensitivity.

Install cable to pipes: wrap the sensing cable around the pipe and fix it tightly with cable ties. When installing, the cable can't be twined or accumulated together.

Note: to ensure best LoRaWAN® communication, keep the EM300-ZLD device away from metal objects and obstacles. Besides, the connectors should be kept away from the water to avoid error alarm report.

3. After removing the cable from the leakage location, dry the cable and ensure the leakage status back to "Normal". The cable can be reused in other places.

4. Although the sensing cable can resist dust and dirt, it is recommended to clean the cable regularly to maintain optimal detection sensitivity. When cleaning, remove the sensing cable from the EM300-ZLD device connector, then use alcohol or soap water to
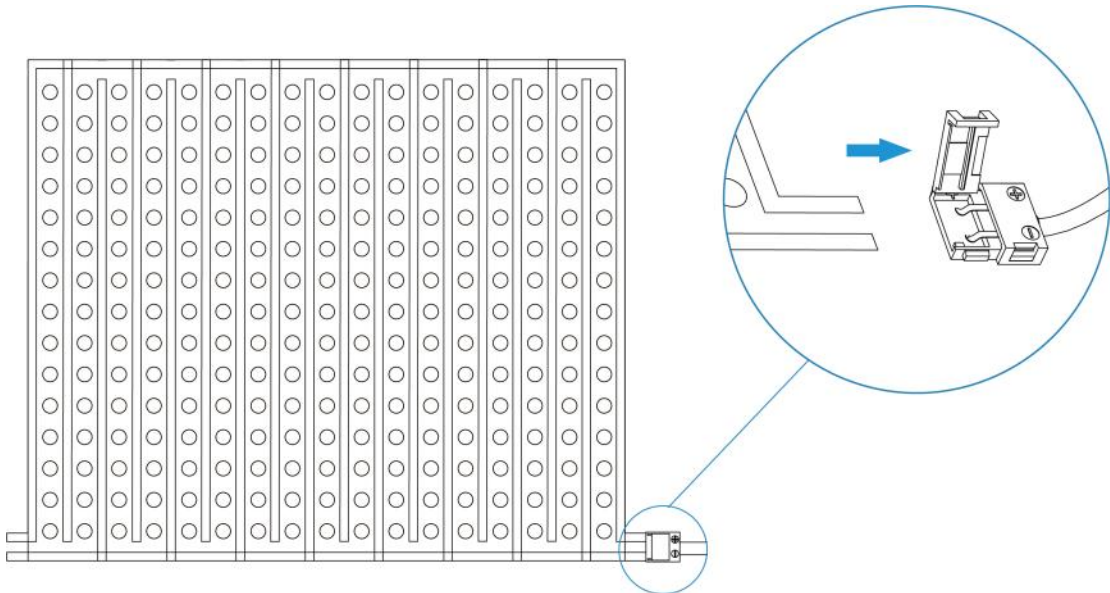
clean the cable and hang it to dry.

EM300-MLD

The detection membrane has two sides: one side with black printed lines to detection water leakage, the other side with 3M tape to paste as required. When the water covers two black lines (soaking water length > 1.5 cm), the device will send leakage alarms. There is a protective film on the detection side and it needs to be removed before installation.

Connect the Membrane to EM300-MLD Device

Slide one of the tabs sticking out from the membrane into the connector of EM300-MLD device, ensure the black lines touch the two metal parts of the connector, then restore the connector cover back to fix the membrane into device.
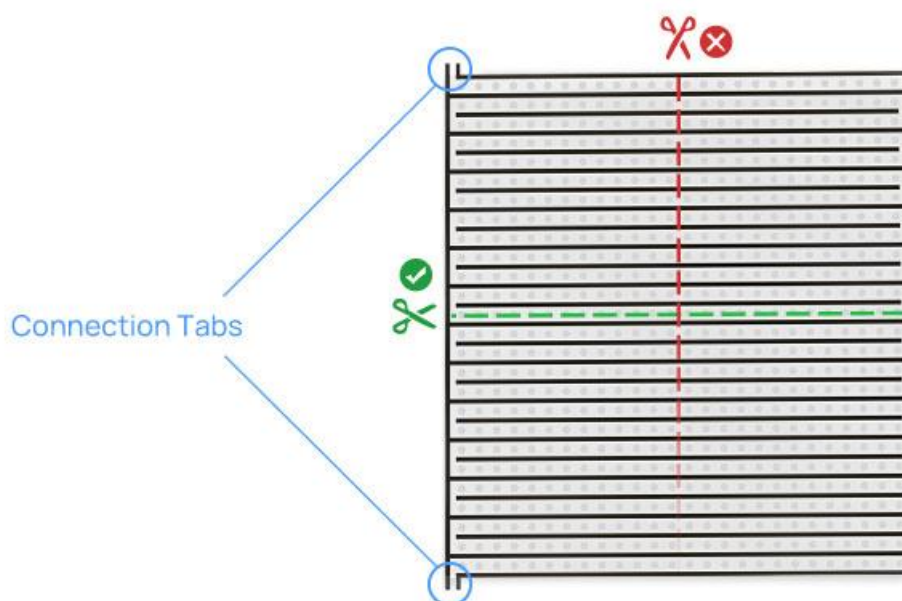

Install the Membrane

1. Select the installation location to detect the leakage. To ensure the most sensitive effect, ensure the installation location is a flat surface without debris, dust and deep gaps. If the membrane needs to be pasted to installation location, the surfaces should be cleaned and free from dirt, adhesive residue, water drops and other things.
2. Cut the membrane to suit the detection area or keep the whole membrane without cutting. It is necessary to cut the membrane as below direction to avoid the black lines disconnected.
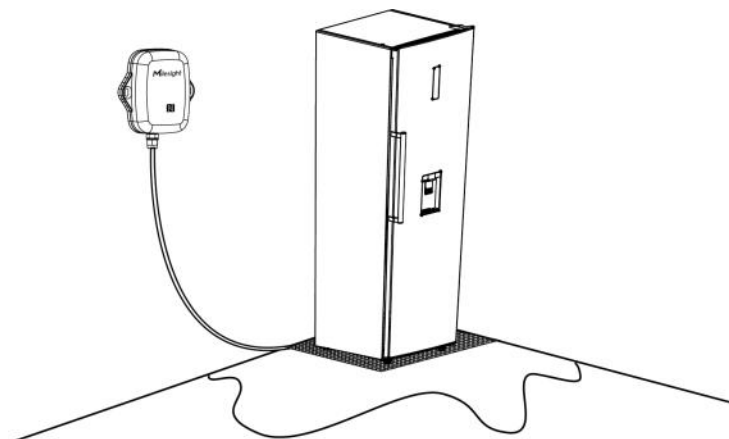Note: one membrane has two connection tabs and supports to be cut as two pieces for two EM300-MLD devices. If you only use one tab and the other tab is useless, you can

also cut it.

Connection Tabs

3. Put the membrane on the installation location, ensure the detection side touches the detection area or detection object, the membrane is placed flat without crimping.

Usually the membrane can be placed under the electrical appliances (refrigerator, washing machine, etc.), while the EM300-MLD and connector can be fixed on the adjacent wall.

Note: to ensure best LoRaWAN® communication, keep the EM300-MLD device away from metal objects and obstacles.

Besides, you can tear the other side to paste the membrane to the wall via 3M tape.

4. After removing the membrane from the leakage location, dry the detection side with a soft cloth and ensure the leakage status back to "Normal". The membrane can be reused in other places.

Note: do not rub off the black lines on the detection side, as this can reduce leakage detection sensitivity or even disable the leakage detection feature.

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